Title: METHOD AND APPARATUS TO MODIFY GEOLOCATION ACTIVITIES BASED ON LOGGED QUERY INFORMATION

IN THE CLAIMS

Please amend the claims as follows:

(Currently Amended) A method to perform geolocation activities relating to a network 1. address, the method including:

maintaining a database of network addresses and associated geographic locations;

receiving a query, including a network address, against the database for a geographic location associated with the network address;

logging information concerning the query received against the database; and modifying geolocation activities relating to at least the network address based on the logged information,

wherein the geolocation activities include:

collecting network information pertaining to at least the network address; and estimating the geographic location associated with the network address, based on the collected network information, and

wherein the modifying of the geolocation activities includes:

prioritizing the geolocation activities relating to at least the network address.

- 2. (Original) The method of claim 1, wherein the logging of information concerning the query includes logging the network address if a record identifying the geographic location associated with the network address is not located within the database.
- 3. (Cancelled)

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(Cancelled) 4.

(Currently Amended) The method of claim [[4]] 1, wherein the collecting of the network 5.

information pertaining to at least the network address includes collecting the geolocation

information utilizing a plurality of data collection agents.

6. (Original) The method of claim 5, wherein the plurality of data collection agents are

geographically dispersed.

(Currently Amended) The method of claim [[4]] 1, wherein the collecting of the network 7.

information is performed utilizing a plurality of data collection processes.

8. (Currently Amended) The method of claim [[4]] 1, wherein the collecting of the network

information is performed from a plurality of data sources.

9. (Cancelled)

(Original) The method of claim 1, including determining that the database does not 10.

indicate a geographic location as being associated with the network address, and wherein the

modifying includes prioritizing the geolocation activities relating to the network address based

on the determination that the database does not indicate the geographic location as being

associated with the network address.

11. (Original) The method of claim 10, including maintaining a log of network addresses for

which the database does not indicate respective geographic locations as being associated with the

network addresses, and prioritizing the geolocation activities based on the log.

(Original) The method of claim 11, wherein the log is a customer access log that indicates 12.

location misses, the method including obtaining information concerning location misses from the

customer access log.

(Original) The method of claim 11, wherein the prioritizing of the geolocation activities 13.

is with respect to a plurality of network addresses included in the log.

(Original) The method of claim 10, including receiving the query from a requester, and 14. communicating a message to the requester indicating an absence of an association between the network address and the geographic location in the database.

- 15. (Original) The method of claim 1, wherein the query is received from a customer website, responsive to a user accessing the customer website, the network address being the network address associated with a machine of the user.
- 16. (Original) The method of claim 1, wherein the query is received via an Application Program Interface (API).
- 17. (Original) The method of claim 1, wherein the query is received via a customer extranet.
- (Original) The method of claim 8, wherein the estimating includes determining whether 18. the network address falls within a consolidated domain of network addresses maintained within the database.
- 19. (Original) The method of claim 18, wherein the consolidated domain of network addresses maintained within the database includes any one of a group of domains including an educational, business, service provider and government domain.
- 20. (Original) The method of claim 8, wherein the estimating includes identifying a network address block around the network address.
- 21. (Original) The method of claim 8, wherein the estimating includes running an exact geolocation process to determine geolocation information for the network address.
- 22. (Original) The method of claim 20, wherein the estimating includes running an exact geolocation process to determine geolocation information for the identified network address block around the network address.
- 23. (Original) The method of claim 21, wherein the exact geolocation process includes any one of a group of geolocation processes including a traceroute, a latency calculation, a hostname matching operation and a DNS process.

24. (Original) The method of claim 8, wherein the estimating includes running an inexact geolocation process to determine geolocation information for the network address.

- 25. (Original) The method of claim 8, wherein the estimating includes forwarding the network address for manual resolution.
- 26. (Original) The method of claim 8, wherein the estimating is a tiered process, including a plurality of sequential automated mapping operations to associate the geographic location with the network address.
- 27. (Currently Amended) A system to perform geolocation activities relating to a network address, the system including:
 - a database of network addresses and associated geographic locations; and a server to:

receive a query, including a network address, against the database for a geographic location associated with the network address;

log information concerning the query received against the database; and modify geolocation activities relating to at least the network address based on the logged information,

wherein the server is to perform geolocation activities including:

collecting network information pertaining to at least the network address; and

estimating the geographic location associated with the network address, based on the collected network information, and

wherein the server is to modify the geolocation activities by:

prioritizing the geolocation activities relating to at least the network address.

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28. (Original) The system of claim 27, wherein the server is to log the network address if a record identifying the geographic location associated with the network address is not located within the database.

- 29. (Cancelled)
- 30. (Cancelled)
- (Currently Amended) The system of claim [[30]] 27, including a plurality of data 31. collection agents to collect the geolocation information.
- 32. (Original) The system of claim 31, wherein the plurality of data collection agents are geographically dispersed.
- 33. (Currently Amended) The system of claim [[30]] 27, wherein the collecting of the network information is performed utilizing a plurality of data collection processes.
- (Currently Amended) The system of claim [[30]] 27, wherein the collecting of the 34. network information is performed from a plurality of data sources.
- 35. (Cancelled)
- (Original) The system of claim 27, wherein the server is to determine that the database 36. does not indicate the geographic location as being associated with the network address, and to prioritize the geolocation activities relating to the network address based on the determination that the database does not indicate the geographic location as being associated with the network address.
- 37. (Original) The system of claim 36, including a log of network addresses for which the database does not indicate respective geographic locations as being associated with the network addresses, the server to prioritize the geolocation activities based on the log.
- (Original) The system of claim 37, wherein the log is a customer access log that indicates 38. location misses, the server to obtain information concerning location misses from the customer access log.

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(Original) The system of claim 37, wherein the server is to prioritize the geolocation 39.

activities with respect to a plurality of network addresses included in the log.

- 40. (Original) The system of claim 27, wherein the server is to receive the query from a requester, and to communicate a message to the requester indicating an absence of an association between the network address and the geographic location in the database.
- (Original) The system of claim 27, wherein the query is received at the server from a 41. customer website, responsive to a user accessing the customer website, the network address being the network address associated with a machine of the user.
- 42. (Original) The system of claim 27, wherein the query is received via an Application Program Interface (API).
- (Original) The system of claim 27, wherein the query is received via a customer extranet. 43.
- (Original) The system of claim 27, wherein the server is to determine whether the 44. network address is likely to fall within a consolidated domain of network addresses maintained within the database.
- (Original) The system of claim 44, wherein the consolidated domain of network 45. addresses maintained within the database includes any one of a group of domains including an educational, business, service provider and government domain.
- 46. (Original) The system of claim 27, wherein the server is to identify a network address block around the network address.
- (Currently Amended) The system of claim [[35]] 27, wherein the estimating includes 47. running an exact geolocation process to determine geolocation information for the network address.
- (Currently Amended) The system of claim [[35]] 27, wherein the estimating includes 48. running an exact geolocation process to determine geolocation information for the identified network address block around the network address.

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- 49. (Original) The system of claim 48, wherein the exact geolocation process includes any one of a group of geolocation processes including a traceroute, a latency calculation, a hostname matching operation and a DNS process.
- 50. (Currently Amended) The system of claim [[35]] <u>27</u>, wherein the estimating includes running an inexact geolocation process to determine geolocation information for the network address.
- 51. (Currently Amended) The system of claim [[35]] <u>27</u>, wherein the estimating includes forwarding the network address for manual resolution.
- 52. (Currently Amended) The system of claim [[35]] <u>27</u>, wherein the estimating is a tiered process, including a plurality of sequential automated mapping operations to associate the geographic location with the network address.
- 53. (Currently Amended) A machine-readable medium storing a set of instructions that, when executed by a machine, cause the machine to perform a method to perform geolocation activities relating to a network address, the method including:

maintaining a database of network addresses and associated geographic locations; receiving a query, including a network address, against the database for a geographic location associated with the network address;

logging information concerning the query received against the database; and modifying geolocation activities relating to at least the network address based on the logged information,

wherein the geolocation activities include:

collecting network information pertaining to at least the network address; and
estimating the geographic location associated with the network address, based on the
collected network information, and

wherein the modifying of the geolocation activities includes:

54. (Currently Amended) A system to perform geolocation activities relating to a network address, the system including:

first means for storing network addresses and associated geographic locations; and second means for:

receiving a query, including a network address, against the [database] first means, the query being for a geographic location associated with the network address;

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determining that the [database] first means does not indicate a geographic location as being associated with the network address;

logging information concerning the query received against the [database] first means; and

modifying geolocation activities relating to at least the network address based on the logged information,

wherein the second means is for performing geolocation activities including:

collecting network information pertaining to at least the network address; and

estimating the geographic location associated with the network address, based on the collected network information, and

wherein the second means is for modifying the geolocation activities by:

prioritizing the geolocation activities relating to at least the network address.